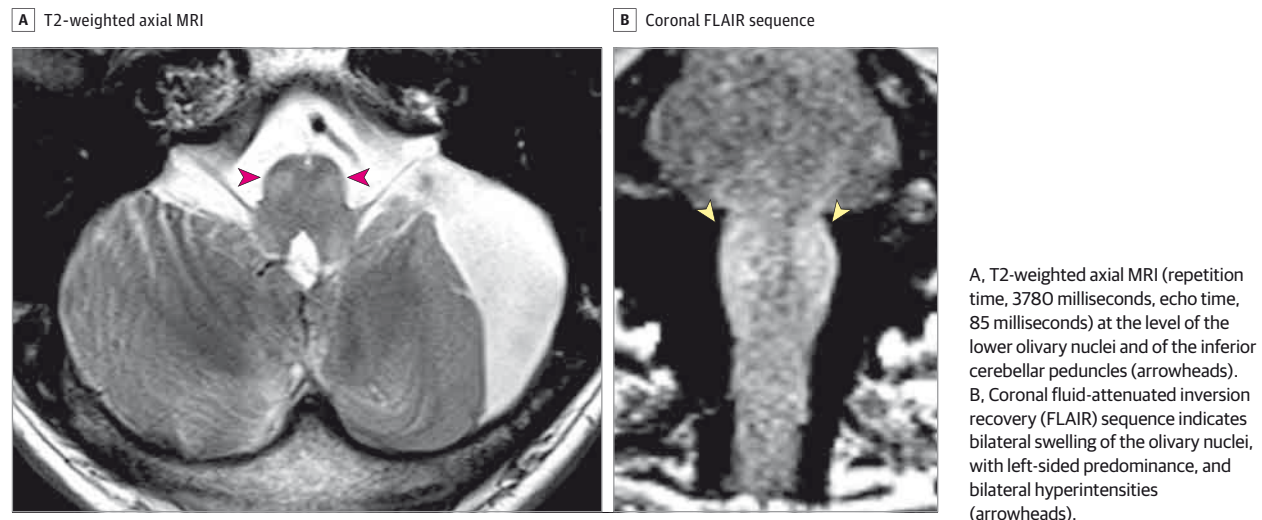


## Images in Neurology

## Dancing Jaw and Dancing Eyes

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Figure. Location of the Patient's Lesion on Magnetic Resonance Imaging (MRI)



**A man in his early 30s** experienced infratentorial bleeding of unknown etiology. Two weeks after this occurrence, he manifested rhythmic horizontal jaw and eye movements (Video). About 5 weeks after the patient's hemorrhage he was

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observed to have pendular nystagmus and soft-palate oscillations with a frequency of 3 Hz. Fiberoptic laryngoscopy examination revealed rhythmic movements of the pharynx, root of the tongue, and plicae aryepiglotticae (Video). A diagnosis of oculopalatal tremor was made on the basis of the clinical observations. Findings from the magnetic resonance imaging examination done 8 weeks after the patient's initial brainstem injury revealed bilateral T2-weighted hyperintense signal changes at the level of the lower olivary nuclei and of the inferior cerebellar peduncles (Figure), corresponding to a disruption of the inhibi-

tory dentato-rubro-olivary pathway (the so-called Guillain-Mollaret triangle).<sup>1</sup>

The combination of oculopalatal tremor and unusual rhythmic jaw movements may be explained by the common developmental anatomy of the structures involved in these effects. During embryonic development, the first pharyngeal arch gives rise to the oral jaw muscles and to the trigeminal nerve.<sup>2</sup> The cranial nerves derived from the other pharyngeal arches also may be affected and contribute to the oculopalatal tremor; indeed, we observed a progression of the affected cranial nerves beginning with the trigeminal nerve and spreading downward to the glossopharyngeal and vagus nerves. This accorded with a worsening of the patient's dysarthria over time. His oscillopsia and dysarthria diminished on treatment with gabapentin.<sup>3</sup>

In conclusion, the typical clinical presentation of oculopalatal tremor was announced by the atypical, rhythmic jaw movements occurring 3 weeks earlier.

## ARTICLE INFORMATION

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## REFERENCES

- Shaikh AG, Hong S, Liao K, et al. Oculopalatal tremor explained by a model of inferior olivary hypertrophy and cerebellar plasticity. *Brain*. 2010; 133(pt 3):923-940.
- Higashiyama H, Kuratani S. On the maxillary nerve. *J Morphol*. 2014;275(1):17-38.
- Thurtell MJ, Joshi AC, Leone AC, et al. Crossover trial of gabapentin and memantine as treatment for acquired nystagmus. *Ann Neurol*. 2010;67(5):676-680.